BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE ADMINISTRATIVE LAW JUDGE'S RULING SEEKING UPDATED INFORMATION REGARDING THE RENEWABLE MARKET ADJUSTING TARIFF PROGRAM

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the California Energy Storage Alliance ("CESA") hereby submits these comments to the *Administrative Law Judge's Ruling Seeking Updated Information Regarding the Renewable Market Adjusting Tariff Program* ("Ruling"), issued by Administrative Law Judge ("ALJ") Manisha Lakhanpal and ALJ Carolyn Sisto on April 22, 2021.

I. INTRODUCTION.

CESA appreciates the opportunity to provide feedback on potential reforms to the Renewable Market Adjusting Tariff ("ReMAT") Program. In reviewing the ReMAT framework, CESA requests that the Commission recognize that the state of energy storage technologies has

changed drastically since the program was first developed. Today, a wide array of energy storage technologies is commercially available, operationally demonstrated, and often a component of renewable generation facilities such as solar photovoltaic ("PV"), wind, and geothermal. Given California's energy and environmental goals, as well as the continued need for dispatchable capacity during peak periods, energy storage paired with qualifying renewable generation facilities is poised to be essential in the coming years. It is only by leveraging these assets that the state will maximize the provision of firm, predictable, and dispatchable energy and capacity. As such, CESA's responses to the questions included in the Ruling can be summarized as follows:

- The Commission should seek to maximize the IOUs ReMAT allocation in a manner consistent with California's policy targets, in alignment with grid need and value, and reflecting commercial interest.

- The Commission should allow a more flexible allocation across the three procurement category types, guided by time-of-delivery ("TOD") factors and commercial interest.

- The Commission should utilize TOD factors in the ReMAT program as it would only further the incentives for developers to present projects that maximize their contributions to grid reliability.

- The Commission should expressly affirm that energy storage charged only by a renewable generator may participate in the ReMAT program in a manner consistent with the Renewable Portfolio Standards ("RPS") Eligibility Handbook and Decision 20-05-006.

- The Commission should determine the eligibility of energy storage paired with eligible renewable generation to specific ReMAT product categories based on the expected output of the combined resource.

II. RESPONSES TO QUESTIONS.

Question 1: How can the Commission ensure that the ReMAT procurement target is fully achieved?

a. Would reassigning or providing more flexible allocation across the three procurement category types enable the Investor-Owned Utilities (IOUs) to fill their ReMAT allocations?

b. How could historical program data be used to re-evaluate the current product category allocations?

c. Should other retail sellers, including Community Choice Aggregators, be eligible to participate in the ReMAT program?

d. Should the product category allocations be revisited regularly, or could a one-time modification lead to a full ReMAT subscription for all IOUs?

e. Should the Deemed Fully Subscribed definition be revised to ensure that the ReMAT procurement is fully subscribed?

Currently, the ReMAT program has a subscription limit of 750 MW divided across the state's three investor-owned utilities ("IOUs"): Pacific Gas and Electric Company ("PG&E"), Southern California Edison ("SCE") and San Diego Gas & Electric ("SDG&E"). Since Decision ("D.") 12-05-035 expanded upon the program previously known as the Feed-in-Tariff ("FIT"), the available capacity per IOU was reduced by the capacity already subscribed under FIT. As such, the ReMAT allocations by IOU are as follows:

- PG&E: 218.8 MW.
- SCE: 226 MW.
- SDG&E: 48.8 MW.

The subscription allocations by IOU are further subdivided into three possible ReMAT products: Baseload, As-Available Peaking ("AAP"), and As-Available Non-Peaking ("AANP"). While each of the IOUs specifies these products within their ReMAT power purchase agreements

("PPAs"), generally, the key difference between them lies on the primary generating renewable energy source that provides input energy for the generator. As-Available facilities are those powered by one of the following sources, except for a *de minimis* amount of energy from other sources: (a) wind, (b) solar energy, (c) hydroelectric potential derived from small conduit water distribution facilities that do not have storage capability, or (d) other variable sources of energy that are contingent upon natural forces other than geothermal.[1] Baseload facilities are defined as any generating facility that does not qualify as an as-available facility, In essence, these definitions highlight that the core difference among the three ReMAT product categories lies in the intermittence and temporal resource profile of the source energy.

In this context, the Commission should seek to maximize the IOUs ReMAT allocation in a manner consistent with California's policy targets and grid needs. First, it is relevant to consider the long-term planning processes that are underway at the Commission and other regulatory venues. According to the 2021 Senate Bill ("SB") 100 Joint Agency Report ("SB 100 Report"), California's path to fulfill with the goal of decarbonizing 100% of electricity retail sales by 2045 will necessitate approximately 70 GW of utility-scale solar and all of the assumed available in-state wind (4.3 GW).[2] These figures demonstrate that intermittent renewable resources will be essential to achieve the state's targets. To fully harness these resources, energy storage that allows for efficient daily energy-shifting will be fundamental. The SB 100 Report highlights this fact, noting the selection of approximately 49 GW of battery energy storage by the same year.[3]

[1] *See* SCE, "Form 14-934: Renewable Market Adjusting Tariff Power Purchase Agreement", Appendix A, at 40.

[2] California Energy Commission ("CEC") *et al*, 2021 SB 100 JAR, at 75.

[3] *Ibid.*

Second, the Commission should consider the operational challenges associated with a grid highly reliant on VERs. According to the Final Root Cause Analysis ("FRCA") related to the mid-August 2020 extreme heat wave, the increased use of VERs has changed the hours with the highest likelihood of undersupply form the gross peak hour to those representing the net demand peak – *i.e.*, the peak demand net of solar and wind generation.[4] In essence, the hours in which capacity and energy are the most valuable are moving later in the day, towards periods with negligible or no PV VER generation.

Considering these two facts, CESA recommends the Commission leverage the ReMAT program in a manner that enables the IOUs to fill their allocations while procuring the resources best-equipped to contribute to the state's decarbonization goals and reliability objectives. To do so, the Commission should first expressly allow the inclusion of energy storage components as part of ReMAT projects. This issue is discussed in more detail in our response to Question 5 of the Ruling. Second, and pursuant to Question 1 of the Ruling, the Commission should allow a more flexible allocation across the three procurement category types. By leveraging time-of-delivery ("TOD") factors to tie electricity generation and thus PPAs to the value of that energy to the grid, the IOUs should be allowed more flexibility when complying with the allocations between the AAP and AANP product categories. ReMAT prices guided by TOD factors will favor the product categories that align with the generation capabilities needed to achieve California's environmental goals and reliability objectives and appropriately drives commercial interest to develop capacity of a particular product type.[5] Historical program data also supports this

[4] CEC *et al*, FRCA, at 4.

[5] Table 2 of Appendix 1 of D.20-10-005 notes the number of contracts used to inform the product category prices. This table highlights that the As-Available Peaking product category included 25 contracts, while As-Available Non-Peaking and Baseload included only 3 and 1, respectively. Out of the 33.1 MW allocated for As-Available Peaking only 4.8 MW remain. This figure is 35.2 and 29.7 for As-Available Non-Peaking and Baseload, respectively.

modification toward more flexible allocations for AAP and AANP, as the IOU records show a higher level of interest in the AAP category. As a potential initial step, this could be achieved by allowing IOUs to count AAP projects towards compliance of the AANP category only once the former has been exhausted.

Question 2: **Should the Commission require San Diego Gas & Electric Company (SDG&E) to restart its ReMAT program to procure the remaining 20.9 Megawatt of its allocated ReMAT capacity left uncontracted?**

- **a. Should the Commission direct SDG&E to use its existing ReMAT project queue? Why or why not?**
- **b. Would soliciting new projects have different costs and benefits relative to using the existing project queue?**

CESA offers no comment at this time.

Question 3: **Should utilities pay resources differently based on time-of-delivery (TOD) of generation and/or location?**

- **a. What should be the appropriate valuation assigned to TOD and peak demand hours?**
  - **i. Should the IOUs be required to provide two TOD factors: one for generators that do not provide resource adequacy and another for generators that do provide resource adequacy?**
  - **ii. Why or why not?**
- **b. Could the valuation of available resources during peak hours and/or resources that are strategically located resources be aligned with a utility's integrated resources planning process, or are there more appropriate valuation methods already used in other IOU procurement planning processes?**

As noted in our response to Question 1, it is fundamental the Commission update the ReMAT framework to reflect evolving grid conditions, which can be captured by incorporating TOD factors and applying payment allocation factors to encourage project development and contracting for resources needed and most valued. For example, the FRCA underscored that the

hours with the highest likelihood of undersupply have moved from the gross peak hour to those representing the net demand peak. In this context, the inclusion of TOD factors is a necessity, as it would further the incentives for developers to present projects that maximize its contributions to grid reliability. Locational granularity should be reflected in TOD factors, where possible. However, the underlying generation technology should not cause different TOD factors, which should reflect the value of energy at different times of the day for energy delivered to the grid by any generation technology. In other words, TOD factors should be technology neutral.

For dispatchable resources that count for Resource Adequacy ("RA"), CESA believes that it is appropriate to separately make capacity payments for resources that discharge during the RA Availability Assessment Hours ("AAH") for either System, Local, or Flexible RA, pursuant to RA counting rules. Capacity payments will incentive resources to bid and make their capacity available to the market, particularly for dispatchable renewable resources that incorporate energy storage, and will better align RA value with the type of capacity resources procured and contracted in the ReMAT, especially as RA rules evolve. Alternatively, capacity-weighted TOD factors could be assigned to generation during the hours aligned with the RA AAH to increase the energy payments accordingly, providing incentives to perform at the times of highest value to the grid.

Question 4: **How should utilities be required to notify any projects in their ReMAT queues when filing any change to their tariff and standard power purchase agreement (PPA)?**

CESA offers no comment at this time.

Question 5: **Would D.12-05-035 and/or D.13-05-034 need to be modified in order to allow renewable systems paired with storage to be eligible under ReMAT?**

a. If so, what modifications would be necessary to enable the eligibility of renewable energy plus storage systems?

b. Would any changes be necessary to each utilities' ReMAT tariff and/or PPA to enable renewable energy systems paired with storage to be eligible in their programs?

c. How should co-located and hybrid energy storage resources be defined in light of recent and future developments in the California Independent System Operator's Hybrid Resource Initiative?

It is imperative for the Commission to address the eligibility of renewable resources incorporating energy storage under the ReMAT program. Specifically, the Commission should expressly affirm the inclusion of energy storage components as part of ReMAT projects, as noted in our response to Question 1.

As a foundation, the California Energy Commission ("CEC") has already established the eligibility of energy storage as an addition or enhancement to an eligible renewable generator when the storage devices are "integrated" and thus only capable of storing energy from the eligible renewable generator, or "directly connected" and thus directly connected to the eligible renewable generator via an internal power line. As such, the eligibility of renewable systems paired with storage should be unambiguously eligible under ReMAT when the storage is physically incapable or configured in a way (*e.g.*, via power control systems) to only charge from the paired eligible renewable generator. In CESA's review of D.12-05-035 and D.13-05-034, no changes would need to be made except to expressly allow for renewable systems paired with storage, where the storage is exclusively charged from the onsite renewable resource, in ReMAT to avoid ambiguities or to leave room for case-by-case determinations. To ensure the paired storage facility is unable to charge from the grid, the ReMAT tariff could be simply modified to ensure that the appropriate physical relays or equivalent firmware or software controls are in place to prevent grid charging and thus preserve its eligibility in ReMAT.

Furthermore, on May 7, 2020, D.20-05-006 was issued in Rulemaking ("R.") 18-07-017 that modified the standard-offer contract ("SOC") to support small renewable facilities, in compliance with Public Utility Regulatory Policies Act ("PURPA") and in support of the state's renewable goals. As CESA understands D.20-05-006, storage is eligible for PURPA contracts when the storage is a component of a PURPA-eligible QFs and so long as they adhere to the prohibition against charging from the CAISO-controlled grid, with any request to partially charge from the grid needing to be mutually negotiated and submitted for Commission approval via a Tier 2 advice letter. In light of these provisions, CESA requests that the Commission modify its treatment of storage-paired resources in ReMAT based on this framework.

Given the dispatchable nature of energy storage resources and the recent development of market participation models for hybrid and co-located resources, CESA recommends that the Commission modify the ReMAT to determine renewable generation incorporating energy storage to be eligible for the product categories for which it commits to deliver the energy. The ReMAT tariff expressly requires generating facilities seeking participation to provide a generation profile that demonstrates a fraction of the expected output that will be generated during a particular period. In a similar way, the specific product category for which renewable generation incorporating energy storage seeks eligibility should be guided by the expected output for which it aligns. With energy storage controls, production profiles can be modified to fit the appropriate product category and be valued accordingly to the assigned TOD factors, so long as the underlying renewable energy resource from which the energy storage resource is charged is eligible in ReMAT. For example, a lithium-ion battery paired with a renewable resource that commits to discharging during a particular period that aligns with the AAP or AANP definitions should be deemed eligible accordingly. Similarly, if a long-duration resource with a high capacity factor is paired with an

eligible renewable resource in ReMAT that can meet the production profile of a Baseload product category resource, then this type of hybrid or co-located resource should be eligible in the Baseload product category and be valued and contracted for electricity fitting this category.

To this end, CESA suggests the ReMAT program include the following elements to enhance and clarify the participation of energy storage in the program:

1. Product categories should have higher $/MWh payments for systems paired with storage that will discharge during system peak hours. This can be achieved through the appropriate allocation of updated TOD factors to the electricity prices for ReMAT PPAs, as covered in our response to Question 3.
2. Energy storage resources incorporated within an eligible renewable generation facility that demonstrates its expected output during the particular periods of the day should qualify for the appropriate product category based on this expected output.
3. Sites that discharge during the RA Availability Assessment Hours ("AAH") for either System, Local, or Flexible RA should receive a capacity payment in addition to energy payments, pursuant to Commission RA counting rules. Consistently, load-serving entities ("LSEs") should be able to count this capacity toward their RA requirements.
4. If system peak or AAHs change in the future, projects should have the option of being grandfathered into the hours that were in place when the PPA was signed or changing their dispatch to align with new hours.

III. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Ruling and looks forward to working with the Commission and stakeholders in the RPS proceeding.

Respectfully submitted,

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